THE DESIGNER'S GUIDE TO CULTURAL RESEARCH AND DESIGN

BY ZACHARY L. RUBIN

Flute Player at the Summer Palace
Beijing, China

A FRAMEWORK FOR CROSS-CULTURAL PRODUCT DESIGN

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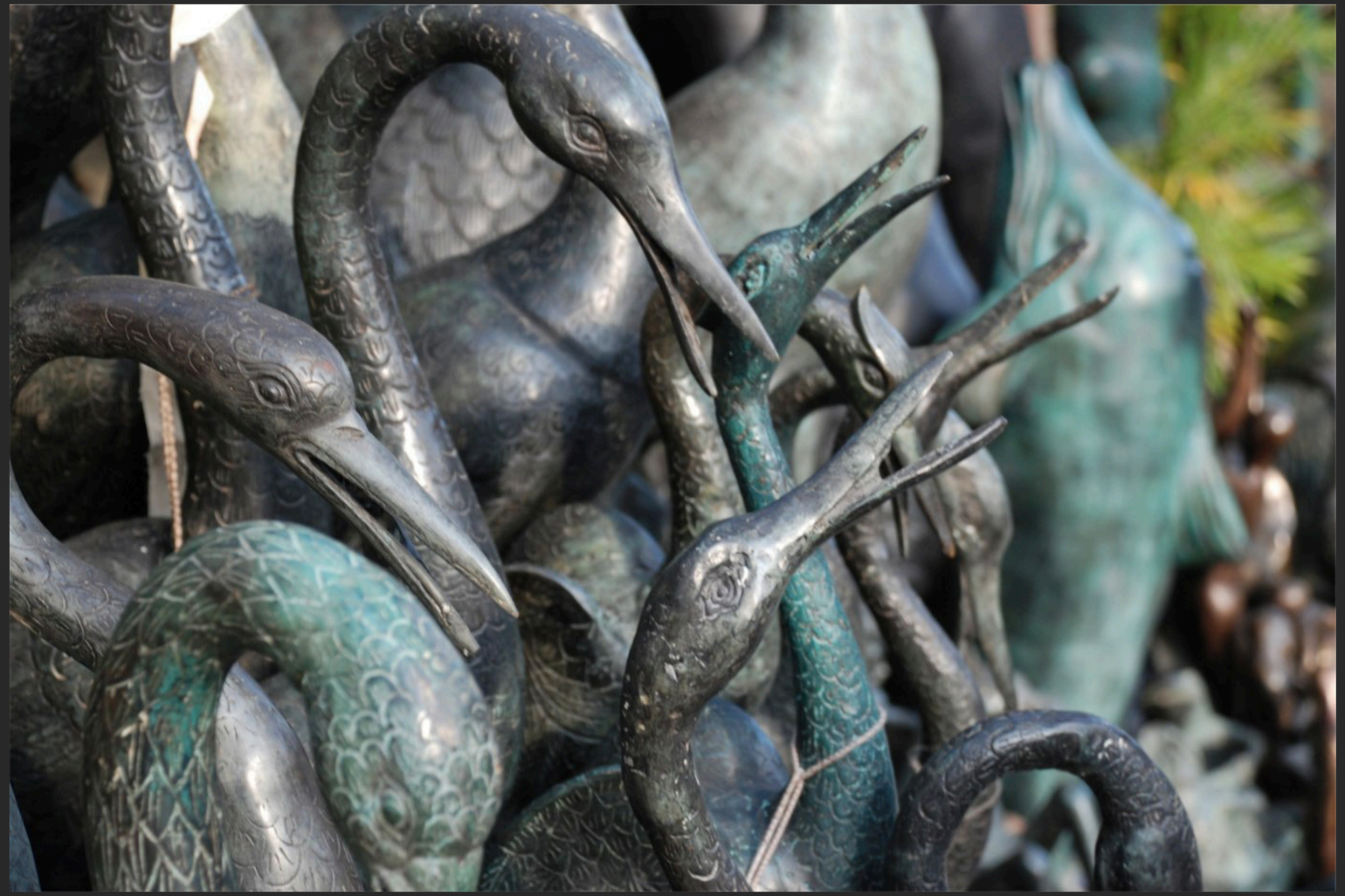
ABSTRACT

In the modern globalized marketplace, industrial designers and consumer product companies are being challenged with cross-cultural design situations. While designers have the tools and instinct to produce culturally relevant designs, budgets and schedules inhibit the cultural immersion required to fully understand a foreign culture. This project investigates design as a cultural phenomenon and outlines a new framework that defines "culture," in terms of industrial design. It aggregates research results from case studies and professional insight to provide Cultural Design methods that allow designers to efficiently extract valuable cultural elements. This framework informs the design process with cultural insights and helps develop products rich in cultural values that address local needs.



CHAPTER ONE

INTRODUCTION

Design is a convention, a pursuit, a discipline; it is something that humans do. Culture on the other hand is an effect, a precipitate, possibly a means of defining humanity; it is who we are. Yet design and culture are oddly similar. Both have been around for far longer than their formal definitions. In fact, some might argue that both design and culture are fundamental consequences of human existence and activity. The term “design” and “culture” were created to describe the human condition that has been around since the dawn of man[1, 2]. Archeology used these terms in describing a civilization through the evolution of the objects and artifacts it left behind. Culture and design are said to be both effective and reflective of one another. Design is a mirror and an agent-of-change of culture[3]. This fascinating symbiotic relationship is the basis of this work.

Copper Sculpture
Bali, Indonesia

BACKGROUND

With the growing global economy changing the face of the US market it has become increasingly important for American manufacturing companies to rethink their business models[4, 5]. Many foreign products have made their way into the American market, penetrating the auto industry, consumer electronics, fashion, industrial equipment - the list goes on! Brands like Volvo, HTC, BASF, Siemens and Komatsu, to name a few, have taken large market shares from their American based competitors[6].

The US market is among the largest and wealthiest in the world. Put simply, we buy a lot of stuff. However, emerging markets in newly industrialized countries like China, India, Turkey, Mexico, Brazil, and the Philippines are quickly becoming massive retail opportunities (see Figure 2.0). In the new world economy product design has become vital for international success[7]. By understanding and gaining a respect for Cultural Design will help American companies create more innovative products and successfully gain new markets.

In 1995, a US appliance manufacturer attempted to enter the Chinese market. The company was one of the world's largest white-goods producers. They couldn't fail. Yet within three years the foreign venture collapsed. No one could understand what went wrong[8]. Why did the Chinese brands have the upper hand? Many other products have failed in many other international markets; though there are products that succeed. What have these companies missed? How can one product fail and another succeed?

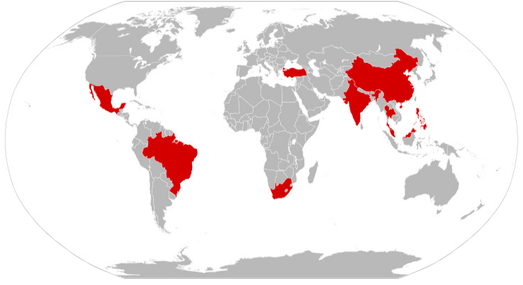
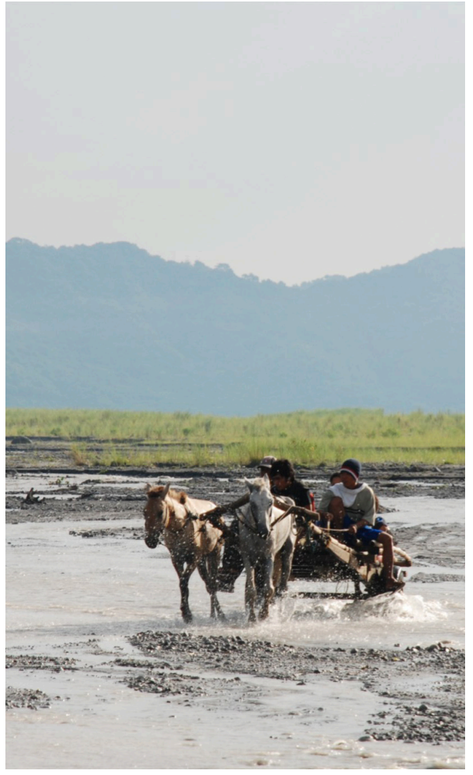


Figure 2.0 - Newly Industrialized Countries
Courtesy of Wikipedia 2011



Rural Farmers
Valley north of Bataan, Philippines

DEFINITIONS

CULTURE

"Culture," as defined by the Oxford Dictionary, is the collective ideas, customs, and social behaviors of a particular people or society[9]. Edward Tylor first used "culture" within the context of social anthropology in the 1870s. It was not popularized until the 20th century as a unifying concept describing the universal human capacity to classify and encode their experiences symbolically, and communicate symbolically encoded experiences socially[10].

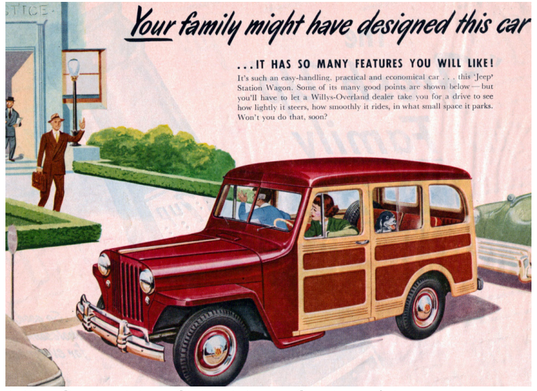
This early definition describes "culture" as the encoding and communication of experiences through symbols; often times these symbols are recorded as the clothing, tools and artifacts of a people. To a designer: culture involves many facets of the human experience including the countless patterns of values and ideals, trends and lifestyles, environments and human relationships[11]. Culture, even domestically, is the basis for all design; it is the data that informs and inspires a product's form, functionality, and interactions. Culture generates diversity and is naturally revealed in all human action, including the products that people design[3]. This diver-

sity is expressed through “cultural elements,” or the shared characteristics of a specific population[12].

DESIGN

Human beings have been designing since the beginning, imprinting the values, beliefs, lifestyles, and environment of their time on their artifacts[13]. In fact, we are able to accurately decipher ancient cultures through the objects that they used and left behind. The forms, materials, colors, art, and manufacturing methods tell us how people lived, the condition of their existence, and the ideals they espoused. Even with recent history we look to designed artifacts to better understand a people and their culture[14]. In a broad sense every man-made object that has ever existed was designed. At some point, someone, somewhere planned how every object would look, function, and be made. Design has moved from a state of survival and necessity, through an era of arts and crafts, to the modern realm of business and mass production[2]. Today, “design” is an umbrella term that crosses numerous trades and disciplines including architecture, graphic, fashion and product design[15]. There are many forms of design and many types of designers, but at the core the fundamentals are all the same, they all involve the “planned making” of something. This project focuses on Industrial Design, or product design. Product design is a multi-disciplinary process, which usually involves market and technological research, concept design, prototype development, final product development and testing as well as post-production refinement[16]. Despite focusing on products, the content presented in this book should apply to all forms of design. Regardless of the medium, culture is communicated through all things made, and interpreted by the same set of the five human senses and comprehension. As users of these products we experience a multitude of “design elements,” or product features that are deliberately integrated as part of a design.

Great Wall of China
Beijing, China



Willys-Overland Jeep Station Wagon. Courtesy of driven.urbandaddy.com

Historically, American’s are somewhat closed off. Isolated within our continental boundaries many didn’t understand, or care to understand our international counterparts [5]. Products were often made solely for the American consumer, designed by Americans for Americans. Suddenly the world became globalized due in part to World War II, commercial air travel, cargo shipping, radio, television, and later the Internet. This led to a cross-pollination of culture and products in global trading[4, 13]. Now products from one country were being sold in another halfway around the world. Many products succeed and the assumption made by executives is that “they are just like us”[4, 14]. However, this is rarely the case. What separate us from them is not just economics and geography but a different culture[17]. Whether it is as dynamic as our superstitions and beliefs or as simple as our tastes and habits, people are different within and outside of the United States.

Design today is multicultural. Not only are designers from different countries working side-by-side, but also design itself often finds inspiration from other lands[18]. However, preliminary research in this subject area has uncovered a knowledge gap of sorts. Although designers seem to respect and value cultural needs and differences many products still fail in foreign markets[14, 19, 20]. In some cases these failures can be attributed to poor marketing, or a loss-in-translation of slogans and branding; yet more often than not, product’s fail due to a lack of cultural relevance[8, 21]. As data was collected and research compiled the problem became clear. Culture, like personality or love, is a terribly complex and nebulous concept[1, 5, 20]. In many ways culture is immeasurable, that is until one is able to view it through a specific lens and for a specific question.

CHAPTER TWO

UNDERSTANDING CULTURAL DESIGN

Cultural Design, or culturally relevant design refers to the consideration and implementation of a target market's cultural elements into a product design for greater aesthetic, functional and emotional acceptance[3, 22]. To the layman this would appear crucial to any design but it is not that simple. Every product is different. Some benefit greatly from cultural relevance, others do not. Some products are made by a culture for that culture and so are inherently culturally relevant [11]. Others are exported and may not be culturally relevant. What if a product is not made by the culture that uses it? Will it be accepted? There in lies the importance of Cultural Design. In the modern world, culture and design share a unique bond.

A Wood Carver
Bali, Indonesia

CULTURAL DESIGN

Prior to globalization, culture and design were never at odds with one another. Consider the implications of the newly globalized world… like an unstoppable force of nature this progression has blended cultures together, creating new ones and dissolving others[1, 3]. Additionally, the modern capability of mass production and distribution is allowing one culture to make the objects and artifacts of another. This leads one to ask: "What would our artifacts of today tell the archeologists of tomorrow? Would they describe our cultures accurately? Would there even be a difference between them?" Some feel that culture always finds its way into a product, even if there is the lack of cultural differentiation [23].

"…identities will never dissolve completely, even in the global world [sic]; when products are exported, a glimpse into the culture of the country of origin is embedded in them."[3]

Others believe that the lack of cultural significance in modern products is detrimental to the human record; that the unique character, and beauty of our variety is lost: "Globalization is leading to greater similarity of perceptions in lifestyle and in some cases identity."[22, 24] As the drivers of culture, do designers have a responsibility to preserve cultural differences? Or are they simply passengers reacting to the natural course of human evolution?

Cultural Design is an under-researched area of design. However, in recent years connections between culture and design have become increasingly evident[1, 3]. The literature that does exist has a very optimistic position on Cultural Design [8, 22, 25, 26]. Nearly every paper provides the same reasons why culturally relevant designs should be a priority [3, 5, 14]. Only a few attempt to focus on the research element by providing methodologies and principles for cultural research and infusion [3, 5, 12, 18, 22]. These principles and methods are always very different from one another with varying levels of complexity, providing credence to the enigmatic nature of Cultural Design. Simply put, some papers compartmentalize culture and product design to explore their overlapping areas.

LAYERS OF CULTURE AND DESIGN

THREE LAYERS OF CULTURE Figure 2.0

1: Physical or Material Culture – including food, garments, and transportation related products
2: Social Behavioral Culture – including human relationships and social organizations
3: Spiritual Ideal Culture – including art and religion

THREE LEVELS OF CULTURAL DESIGN Figure 2.1

1: Outer Level – dealing with color, texture, form, patterns
2: Mid-Level – dealing with function, operation, usability, safety
3: Inner Level – dealing with stories, emotions, cultural features

DONALD NORMAN'S THREE LAYERS OF DESIGN Figure 2.2

Visual Design – involving aesthetics, form and styling
Behavioral Design – involving engineering, function, and usability
Reflective Design – involving concerns, emotions and desires

In one such paper: "Transforming Taiwan Aboriginal Cultural Features into Modern Product Design," author Rung-Tai Lin discusses culture as having three layers [22]. (see Figure 2.0). Lin goes on to discuss three levels of Cultural Design that correspond to the layers of culture. (see Figure 2.1) These levels are reminiscent of Donald Norman's "Three Layers of Design" [5]. (see Figure 2.2)

This correlation is more than just coincidence. The segments of the three Levels and Layers are relative to our perception and cognition of the world around us. The human brain first processes an object's surface details captured through sight, sound, and touch. Then, through interaction, a sense of cognitive satisfaction is gained as the function of the object is understood and executed. Finally, through memory recall the object is attached to emotional content and cultural context. These principles are vital for all design, but especially cross-cultural design as the most successful products are able to capture all three layers of culture and infuse them into the three layers of a product experience.

THE FACTORS OF CULTURAL STUDY

In one academic paper, titled: “Design for Global Markets,” the author, Yue Zhang references Geert Hofstede, a pioneer of cross-cultural studies. Using Hofstede’s Five Dimensions of Culture (see Figure 2.3) and the works of Shalom Schwartz, Zhang derives four aspects of culture for design. (see Figure 2.4)

Geert Hofstede. Courtesy of Google Images

FIVE DIMENSIONS OF CULTURE

Geert Hofstede [27]

Figure 2.3

POWER DISTANCE	The extent to which less powerful members of that culture accept that power is distributed unequally (i.e. the distance between those with power and those without.) Power distance is high in Latin, Asian and African cultures.
INDIVIDUALISM VS. COLLECTIVISM	The extent to which individuals are integrated into groups or not. Individualism prevails in Western cultures; Collectivism is strong in Eastern cultures.
MASCULINITY VS. FEMININITY	The degree of emphasis in a culture on success, achievement and assertiveness vs. caring, modesty, and inclusiveness. Masculinity is high in Japanese, Germanic and Anglo Saxon cultures; Femininity high in France, Latin and Asian cultures.
UNCERTAINTY AVOIDANCE	A societies tolerance for uncertainty and ambiguity. Uncertainty cultures minimize the possibility for unstructured situations through strict laws, security and religions. Uncertainty-avoidance high in Latin, Germanic and Japanese cultures.
LONG TERM VS. SHORT TERM ORIENTATION	This deals with issues of virtue: Long-term cultures value thrift and perseverance; short-term value traditions, social obligations and protecting honor. East Asian cultures are long-term oriented.

“The first aspect is the degree of economic development or modernity. Evolutionary theory suggests that only cultures in the same stage of economic development can be meaningfully compared. As a society modernizes, the quality of people’s lives is evaluated from basic survival needs to moral, spiritual, and social needs that have a significant influence on value beliefs and consumption behaviors. The second factor is historical tradition, how previous experiences affect the way people behave and believe now. For every individual, the first imprints are from parents’ early education and social experiences. Cultural tradition is passed down from generation to generation. The third factor is the individual-society relationship. “Individual values are partly a product of shared culture and partly a product of unique individual personality and experience.” [23] Eastern culture is collectivist and hierarchical. In contrast, the ties between individuals and the society in Western cultures are very loose. The last factor is rapid change in the social dynamic. Rapid cultural change may be propelled by political forces, economic boom, or environmental issues. For those unstable and fast changing societies, new products have shorter lifecycles, and future cultural trends require greater consideration than the current situation”[5].

Yue Zhang - Design for Global Markets

Figure 2.4 - Four Aspects of Culture

To summarize: the first examines a culture’s level of social evolution; the second considers the historical cultural influences that affect the way people behave and believe; the third focuses on the origin of values as culturally shared or individually unique; and the fourth focuses on the speed of cultural change. These four aspects of culture deal with very different things and therefore cover a large area of cultural understanding. These aspects should be considered as they do apply to design, however, a more direct framework of culture is necessary for quick reference, and efficient research.

MARKET RESEARCH

The foundation of Cultural Design is cross-cultural market research. When a society of makers is unfamiliar with a society of users certain research methods must be employed to bridge the knowledge gap. There are two kinds of market research: primary and secondary. Primary research refers to the research that is conducted by the design firm or product company. It might include surveys, focus groups, interviews and immersive observation. Secondary research is research that has been compiled by a third party such as a government agency or market research firm. Although secondary research is less expensive it is also less effective in answering the specific questions of product design [4]. For example, “how does the target population perceive our product?”

A key process of marketing is STP or segmentation, targeting and positioning. This activity involves the categorization of a large population into smaller groups by shared characteristics. This may include the typical demographic delineations of sex, age, and income. Segmentation is usually done on the consumer level, but in cross-cultural and international scenarios it is useful to segment markets at higher levels [4]. A similar method of segmentation should be done with cross-cultural product design.

From the largest markets to the smallest villages, culture is transplanted. Note the basketball hoop to the right.
Village north of Bataan, Philippines

MARKET POPULATION

Figure 2.5 - Market Segments

CULTURAL MARKET	The market targeted for a product launch. It includes the populations, competing products, economic and political conditions, and geographic locations and environments.
CULTURAL POPULATION	The amalgamated population of all demographics within a specific target market.
TARGET POPULATION	The group or groups of a cultural population delineated by demographics that are potential users and/or purchasers of a product; defined by demographic categories (locale, class, sex, age, race, etc).
TARGET GROUP	A highly specific group within the target population classified by similar tastes, lifestyles, and demographics; defined by stereotype (techies, jocks, hipsters, workers, etc).

The table above presents four market segments which define a market population by narrowing degrees of focus (see Figure 2.5). To the right, a diagram illustrates how the more focused groups are part of the larger populations (see Figure 2.6).

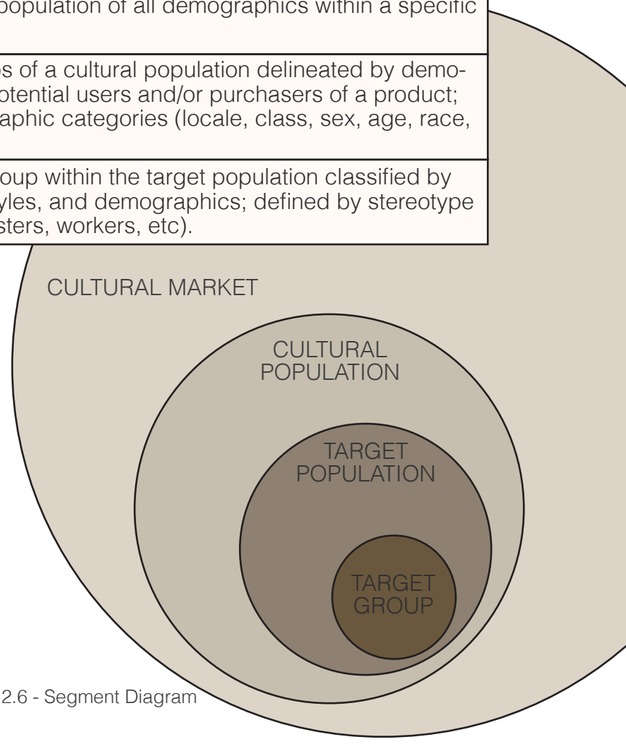


Figure 2.6 - Segment Diagram

CHAPTER THREE

CASE STUDIES

The following case studies are all examples of cross-cultural design situations. The cases demonstrate how thorough research and Cultural Design methods can inform design and produce culturally relevant products that sell. You will notice that all the cases involve the Chinese cultural market. China has over four times the population of the United States; it is also the fastest growing consumer market since trade opened in 1981 [28]. Additionally, China has a unique culture that is vastly different from many in the West. This is due in part to the post-war political atmosphere, and era of isolation [15]. The emergence of China as a key global market and the complications of its culture have been partially responsible for the rising discussion of Cultural Design[15, 29]. China is a near perfect example of a cross-cultural design scenario with tremendous economic potential.

Incense at the Wild Goose Pagoda
Xian, China

CHINESE HOT POT SPEAKERPHONE

In a case study describing the success of implementing cultural elements, a designer was challenged with developing a tabletop speakerphone. He decided to look into the target market's culture for inspiration. In this case China. The designer first examined the existing product by stripping it down to its primitive functions: a device which sits at the center of a table, used by numerous users for a communal interaction. This simplified definition allowed the designer to make connections with other artifacts common within the Chinese culture. An item that shares some of these properties is the Chinese shabu hot-pot. The hot-pot is a large metal or ceramic bowl that sits at the center of a table. Raw food is placed in the boiling broth where it cooks and is then distributed with a large spoon or ladle to multiple diners seated around the table. The designer used the hot-pot as inspiration and incorporated visual form elements into the speakerphone. The final design was dish shaped, with a remote handset resting at the center of the bowl. Festive Chinese red and black accents completed the cultural adaptation [19]. The design introduced a culturally relevant option to an otherwise standardized product category. This method is sometimes called analogous design, in which unrelated products with similar attributes are studied for design inspiration.

Chinese Hot-Pot. Courtesy of Google Images

Conference Room Courtesy of Google Images

THE BUICK GL8

Buick GL8 - Front. Courtesy of Buick.com

Buick GL8 - Side. Courtesy of Buick.com

Realizing the market potential of China, GM invested in a Chinese design staff. This provided them with easy access to cultural research. What they uncovered was that Buick, a GM-owned automobile brand, is perceived as luxury executive cars in China; a contrast to the American perception of Buicks as cars favored by the elderly. The difference in perception was due in part to the last Emperor of China, Pu Yi, who was a fond owner of two Buicks (F. Homes, 2011). Researchers also noted that Chinese consumers valued the facade of wealth and success - the foundation of the thriving knock-off brand market. Looking within the GM family of cars, the designers took the Chevrolet Venture, a family minivan sold in the United States. The minivan was restyled to suite the wealthy business executive market. The interior was given a tonier look with faux wood and leather. The hood was lengthened to represent power, and a new pronounced grille and headlamps were added for an aggressive front face that people would see coming. Finally, the converted minivan was rebranded and dubbed the Buick GL8. The strategy worked as GM sold over half a million cars in China in 2010 [19, 28].

SONY MP3 PLAYER

Sony came to the realization that their MP3 market was suffering in China. Through focus groups they determined that the issue lay in their brand image. The Sony Walkman was the first portable music device to market in the late 1970s; this, combined with a stale design language, resulted in the perception of Sony as “Dad’s Brand” by the younger market. Sony designers realized they needed to get to know the Chinese youth culture. To do this, designers gave fifty Chinese teens and young adults digital cameras to document their lives over several weeks. They were instructed to photograph their bedrooms, places they hung out, activities they did, and things they found interesting. Using the resulting photographs, designers were able to group young adults into seven different lifestyle categories. Each category generated distinct personas, more specific than the traditional demographic delineations [19]. The designs that resulted considered the tastes, interests, and lifestyles of the target user group, told the story of their personality, and established an emotional bond.

Sony MP3 Players, 2003

Streets of Hong Kong
Hong Kong

DISCUSSION

These three case studies demonstrate how cultural research can lead to culturally relevant designs. In all cases designers investigated the foreign culture at increasingly deeper levels. The Hot-Pot case considered native forms and aesthetics and found inspiration in other cultural objects, enabling transference of the context and stories embodied by one product into another. The GM designers uncovered the heritage and values of the target population and transformed that information into design inspiration. Finally, Sony went beyond the standard demographics approach to market research and conducted a deep user study that developed a detailed understanding of the stories and lifestyles of their user group. In each case designers leveraged knowledge and cultural understanding to create new products that resonated with consumers and developed emotional ties to their cultural values.

CHAPTER FOUR

INTERVIEWS

The literature review provided the academic perspective of Cultural Design. To round out the research, four design practitioners were consulted for their professional insight. This group included two CEOs, a freelance designer and a Beijing-based design manager. Interviews lasted approximately 70 minutes and a digital voice recorder was used.

Reproduction Terracotta Warriors
Xian, China

INTERVIEWS

A list of standardized questions was used for each interview:

QUESTIONS:
What are your thoughts on designers, product design, and Cultural Design?

What are the effects of business on product design?

What are your thoughts on globalization?

Do you use any specific design methods for culturally relevant design?

What are your thoughts on cross-cultural research?

What do you foresee in the future of design?

The following was collected from four separate interviews with industry professionals. To maintain their anonymity, their names have been replaced by first and last initials.

J.W. - Freelance Designer - San Francisco, USA
N.M. - CEO, Product Design Firm - Atlanta, USA
A.Z. - Director of Design - Hong Kong, China
M.D. - Managing Director, Design Firm - Chicago, USA

The thoughts and quotes extracted from the dialogues are organized by question and participant.

WHAT ARE YOUR THOUGHTS ON DESIGNERS, PRODUCT DESIGN, AND CULTURAL DESIGN?

"Good designers are good observers and use their gut instinct to lead design." - J.W.
"Design is a very cultural thing." - N.M.
Chinese companies designing for the US market have the same problems. - N.M.
Certain devices do not require as much Cultural Design, i.e. medical devices. - N.M.
"Design is where you will spend the least amount of money correcting mistakes." - N.M.
"Design is about solving problems!" - N.M.
Understanding culture is also about understanding the lifecycle and infrastructure for each product. For example, "we know what happens to an aluminum can here in the US, but what happens to the can in Somalia?" - N.M.

"Products have to fill a need and resonate with the people. Form is not enough!" - A.Z.

"Competition is what drives the need for culture based design." The next generation of the smart phone won't work everywhere. New, more polarizing models will take away some of that market." - N.M.
"The design success of the iphone was that it is a non-offensive product that was first to enter the market." - N.M.
"Cultural issues in design are important but not often considered." - A.Z.
"I am not sensing a great push in the direction of being more culturally relevant." - A.Z.
"Products have to fill a need and resonate with the people. Form is not enough!" - A.Z.
M.D. sites a story from "The Creative Priority" by Jerry Hershberg - Head of Nissan Design:
RE: designs for a "world car": The instinct is to come up with an inoffensive base model that could have skins applied to it. But it was wrong. When studied the most universally popular cars are the ones that are very unusual and unique. Think of the VW bug or Jeep. - M.D.

CONTINUED:

"I learned from Charles Eames a very important Idea: "Design for someone you love, and never for someone you don't know." - Bill Stumpf: Herman Miller designer Aeron Chair - M.D.

"The intuitive notion is to go out and do tons of research talk to as many people as possible, find the common denominator and cipher it all into a mixed equation where all the interesting sharp points are shaved off and every one likes it okay. But Stumpf is saying: design it for the people and culture that you know and love in a beautiful, meaningful way and to your surprise people will be drawn to it." - M.D.

WHAT ARE THE EFFECTS OF BUSINESS ON PRODUCT DESIGN?

"Business is full of insecurities. They want to research to cover their [bases]." - J.W.

"Sometimes the client brings the research from their market research consultant, so the quality is out of our control." - N.M.

"Design alone cannot make you succeed." At the base so much depends on the business strategy, which design consultants have little input in." - A.Z.

WHAT ARE YOUR THOUGHTS ON GLOBALIZATION?

RE: to Buick. There is a level of "Lost in Translation" of Americana. Some cultures have a vague understanding of the American culture. So selling Americana can be marketed using stylized methods. (Paraphrased) - J.W.

"Chinese taste will look towards American aesthetics for premium products" - A.Z.

It is a cyclical event. Through history cultures have been combined and separated, there is a balance (Paraphrased) - M.D.

DO YOU USE ANY SPECIFIC DESIGN METHODS FOR CULTURALLY RELEVANT DESIGN?

"Our process is generally the same, but the details are different. The issue is gathering the information." - N.M.

"In a perfect world you would immerse yourself in the culture, but budgets cannot allow it." "Second best is to do secondary research with ex-pats, and ethnographic studies." - N.M.

"Immersion is important! Even for me… China is so diverse." - A.Z.

Start with the hardest denominator first. Then try to appeal to the most users with universal themes - things that every human can relate to. - M.D.

Find shared human elements. Or universal conditions.

i.e. In Japan people don't shower, they take baths, in the US we shower… but at the end of the day we both wash our hair. - M.D.

RE: When designing for multiple cultures "It's not what makes them different… It's what makes them the same." - M.D.

"When designing for multiple cultures, it's not what makes them different… It's what makes them the same." - M.D.

WHAT ARE YOUR THOUGHTS ON CROSS-CULTURAL RESEARCH?

Focus Groups: People only know what they know. - J.W.

RE: Small consumable product for Indian market:

We had a limited understanding of Indian market. Client did not have the resources to do a full on study, so we did ethnographic research - cultural icons, lotus flower, understood the cultural taboos. Focus group with Indian ex-pats. They led us to the more culturally relevant design. - N.M.

CONTINUED:

"Design is not some magical way to get around cultural knowledge… Design is all about inputs. You need as many inputs as possible. " - N.M.

"Getting your design right is key. But you can't get it right without research… The key of research is to interpret it cor rectly." - N.M.

"All these activities are designed to reduce risk." - N.M.

"Doing too much research is also a risk because you can miss your window." - N.M.

"Immersion is not always going to give you the answer." - M.D.

"Getting your design right is key. But you can't get it right without research… The key of research is to interpret it correctly." - N.M.

WHAT DO YOU FORESEE IN THE FUTURE OF DESIGN?

One-size-fits all is often the case. – It typically works, especially with well-known brands. - A.Z.

There is a growing design community within China, and they are focusing on design within and for China. i.e.: Nokia. The phones you can get from Nokia in China are different [from] everywhere else. - A.Z.

"Most companies don't specialize for the far east; but that will change." - A.Z.

I think we are going to go into a phase where we look to extreme expertise, and that will be a universal appeal. Wheth er it is a cultural desire or a shared goal. - M.D.

"I think we are going to emulate not countries by geographies in terms of culture, but rather great experiences regard less of where they originate." M.D.

Car Designers. Courtesy of carbodydesign.com

The insight proved invaluable as it uncovered the professional perspective towards Cultural Design. Interviews with numerous designers in corporate and consulting offices have disclosed how research is used and not used in design practice. Most designers have a clear understanding of the need for cultural data to achieve culturally significant designs. Designers seem to value the significance of culture-based design and the need for it to succeed in the marketplace. They have developed practice-oriented methods for research and design and consider immersion as providing the best results. Designers confirmed that designs backed by culture-based research are typically better and produce successful results. As stated by a Design firm CEO: "Good products are all about good input." He continued: "Design is where you will spend the least amount of money correcting mistakes." However, the lack of time, funds, and client willingness act as barriers to in-depth Cultural Design research. Often design is conducted as a subset of a business plan or operative. Whether designers work as part of a large corporate structure or are hired as a consultant to a company, the final say is with the executives. To the executive, budgets and profitability take priority over thorough design research [11].

Kunming Lake at the Summer Palace
Beijing, China

CHAPTER FIVE

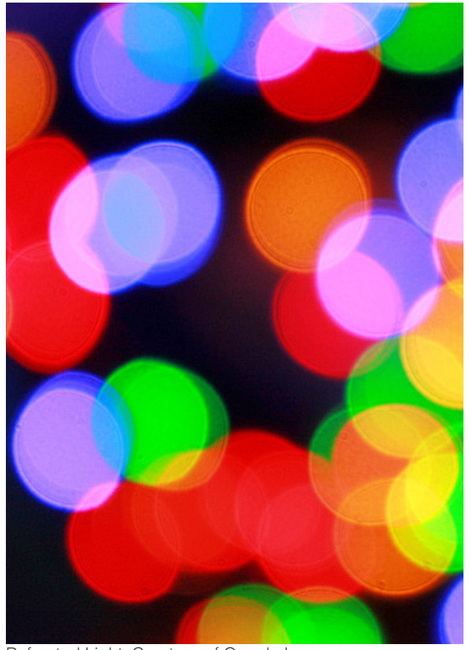
A NEW DEFINITION FOR CULTURE

Although design is an age-old practice, modern industrial design has been in a state of constant change for the last century [2, 16]. Products are no longer accepted for their form and function alone. In order to be desirable in this highly competitive market a product must meet a consumer's expectations and values. It must be usable, safe, communicable, and emotionally relevant [3, 30, 31]. To be these things requires a deep understanding of the end user's personality traits. Now add the complications of a cross-cultural design situation, made common by the globalized marketplace, and the challenges are even greater. Designers have turned to ethnographic research to develop some semblance of cultural meaning. Unfortunately, the research methods and principles are an extension of design methods from domestic design scenarios [15]. There is no solid theoretical framework linking design and culture[3, 18, 22]. A true Cultural Design framework must define culture in terms of design. It will describe what to look for, where to find it and how to extract it.

THREE SPECTRUMS OF CULTURE AND DESIGN

As previously mentioned by Rung-Tai Lin and Donald Norman, there are three layers of culture and three levels of product design that congruently peer deeper into the composition of each. However, both of these breakdowns focus on the factors that are communicated by a culture and a product. To understand a culture for the purpose of product design, it is important to understand the way in which humans experience culture and the products that surround them -- the focus must be on the people and their perception.

To do this it is useful to understand culture and design through an analogy. Imagine for a moment that culture is an amorphous cloud of light. The visible spectrum, or the light we can see, comprises the elements of color, music, language, artifacts and physical environment. This is the "Superficial Spectrum" of culture and design. Just beyond the visible elements are the interactions, behaviors, relationships, functions, etc. This is the "Dynamic Spectrum." Finally, the deepest elements are the stories, traditions, morals, and values. This is the "Intrinsic Spectrum." The following explanations use case studies and example methods to illustrate how each spectrum relates to design situations.



Refracted Light. Courtesy of Google Images

THE SUPERFICIAL SPECTRUM

Flags at Tiananmen Square
Beijing, China

The Superficial Spectrum contains the visible and tangible attributes of a culture and product. It is the language, materials, shapes, locations, climate, and all the objects within a culture or surrounding a product. Since these design elements are necessary for even the most basic design, they are often considered first by designers. In fact, it has been observed that most discussion of Cultural Design is limited to identifying the aesthetic stereotypes such as national shape or color [3]. Some designers simply imprint cultural features into a product without going further to incorporate deeper meaning or value. This can be detrimental to a product's success [3, 5, 12].

In some cases, a cultural feature will be misused or translated. When Best Buy, an American electronics retail giant, entered China the Mandarin translation of their slogan read, "To purchase many times." This loss-in-translation ultimately deterred consumers who expect reliable quality goods. Additionally, their business model did not consider the existing electronics and appliance market, where knock-off brands and price gouging is commonplace. Instead they entered the market with western business values, and refused to play the market game. Best Buy closed nine big box stores within only five years of opening. Although, this is not a "product," it does illustrate how superficial cultural differences can negatively affect an otherwise good concept. In this case, marketing executives should have considered the ramifications of the slogan, and the existing market environment.

THE DYNAMIC SPECTRUM

Lin writes: “Behavioral design features are the key to a product’s usefulness [22].” The Dynamic Spectrum contains the function, operability, social relationships and user interactions of a product and culture. This second tier of design elements is the backbone of every product. A designer must consider how consumers live/work, and the way they interpret the products around them. For example, Derek Eagle, an engineer with the John Deere Company, explains that a small utility tractor sold in America that would normally be used for small construction jobs might be used for heavy-duty tillage and earth moving in a developing country [21].”

Coconut Juice Seller
Boracay, Philippines

Another consideration within the Dynamic Spectrum is population stereotypes. Population stereotypes are the expectations about display and controls, and the relationships between them, shared by most people in a population. Toggle switches, for example, have a strong stereotype for the Chinese who move the switch down for “on” and up for “off”, which is opposite to the majority of the world [25]. Like the mistranslations possible in the Superficial Spectrum, misinterpretations of controls and functionality can be detrimental to a product’s success in addition to becoming a potential hazard for users.

THE INTRINSIC SPECTRUM

The North Gate of the Summer Palace
Beijing, China

The Intrinsic Spectrum of culture and products contains the embedded stories and traditions, memories and emotions, and user values. Capturing cultural elements that evoke emotions and memories will add the greatest value to a product. Making connections to people’s traditions and stories is like weaving a product into the fabric of a culture. The product then has the potential to become part of the culture where it will influence the very values that inspired it.

Two types of products sell well anywhere: products that people absolutely need, and products that people absolutely want. To be emotionally significant is arguably the most effective driver of product success. In “Emotionally Durable Design” Jonathan Chapman writes, “The process of consumption is motivated by complex emotional drivers and is about far more than just the purchasing of new and shinier things, it is a journey towards the ideal self [30].” When a consumer identifies with a product on an emotional level they are willing to pay more for a product and keep it longer[8, 31, 32]. Cross-cultural design situations can present a problem as designers may not fully understand the values of the consumer, thus inhibiting them from implementing culturally relevant design features to establish an emotional connection.

CULTURAL ELEMENTS

The spectrums allow designers to understand how culture and products are perceived. This will ultimately help them identify deep cultural data and produce more emotional designs. However, the spectrums do little to simplify the complexity of cultural research. Every designer has his or her favorite technique for capturing this data out of the "cultural cloud," but even if you break out the data into three layers there are still countless cultural elements. This area of Cultural Design has not been well established both in literature and in the professional realm [3]. There is no discussion of the numerous cultural elements that a designer must sift through to inform and inspire design as they pertain to a specific design goal. A clear definition of culture as it relates to product design is needed.

"There is no discussion of the numerous cultural elements that designers must sift through to inform and inspire design as they pertain to a specific design goal. A clear definition of culture as it relates to product design is needed."

The academic research discussed several key cultural elements that concern product design. Additional elements were realized through the case studies and interviews. Each element was examined to expose the root cultural phenomenon they relate to. Similar roots were combined or discarded, and new definitions were drawn to simplify and clarify their meaning. Eight cultural elements remained. These elements represent the most important areas of culture relative to the needs and methods of product design (see Figure 5.0).

EIGHT CULTURAL ELEMENTS

DEMOGRAPHICS	The categorization of a population based on statistical data of age income, education, sex, location etc.
LIFESTYLE	The deliniation of groups by shared habits, interests and activities.
SETTING	The location, climate, environmental condition, and social, political and economic state of the culture.
ARTIFACTS	All other products familiar to the culture
TRENDS	The current state of [popular] culture in music, art, architecture, entertainment and fashion.
INFLUENCES	The external forces that manipulate the cultural trends and consumer taste.
TRADITIONS	The iconic people, events, symbols and objects that established and continue to resonate within the culture.
PERCEPTIONS	The intrinsic attitude, awareness expectations and standards shared by the culture.

Figure 5.0 - Eight Cultural Elements

Consider the cultural elements as different colors or wavelengths of the light spectrum. When viewed together they form white light, or in this case Culture. Like the spectrum of light, the majority of culture is invisible and enigmatic in nature. The elements are simply terms that facilitate cultural visualization. Each element consists of the valuable data that market researchers and designers seek. It is not necessary to examine each element in length. Ultimately it will depend on your design goals, and the level of cultural relevance desired.

FOUR CULTURAL LENSES

Designers are particularly good at working with definitions. In fact, all design projects start by defining the problem in its simplest form. The same approach was used here. Examining the eight cultural elements led to the defining of four cultural lenses: Population, Environment, Consciousness, and Values (see Figure 5.2). These lenses categorize the eight elements into pairs based on where the data is captured and the depth of perception required to investigate them. Going back to the analogy of culture as the spectrum of light, consider the four lenses as different filters through which culture can be viewed. Examining a culture through the Consciousness lens will enlighten the Trends and Influences; the Values lens will show the Traditions and Perceptions and so on (see Figure 5.3).

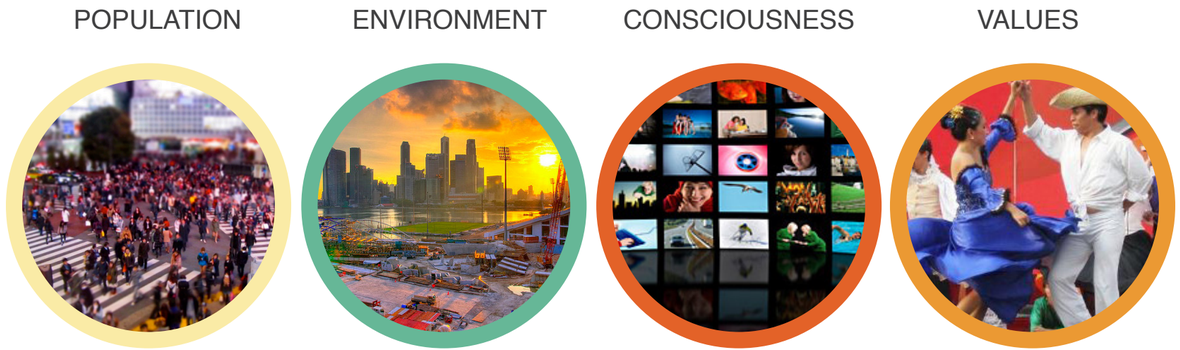


Figure 5.2 - The Four Cultural Lenses

Figure 5.3 - Four Cultural Lenses with Eight Elements

LENS DEFINITION		ELEMENT DEFINITION	
POPULATION	The personalities, classes, activities, and behaviors that describe a cultural population.	DEMOGRAPHICS	The categorization of a population based on statistical data of age income, education, sex, location etc.
		LIFESTYLE	The deliniation of groups by shared habits, interests and activities.
ENVIRONMENT	The physical environment, geography, weather and surrounding objects that form the cultural context of a people and region.	SETTING	The location, climate, environmental condition, and social, political and economic state of the culture.
		ARTIFACTS	All other products familiar to the culture
CONSCIOUSNESS	The current temperament including the ephemeral interests, enthusiasms, fads, and tastes of a cultural population.	TRENDS	The current state of [popular] culture in music, art, architecture, entertainment and fashion.
		INFLUENCES	The external forces that manipulate the cultural trends and consumer taste.
VALUES	The ideals embedded within a cultural population that determine ambitions, priorities, desire and standards.	TRADITIONS	The iconic people, events, symbols and objects that established and continue to resonate within the culture.
		PERCEPTIONS	The intrinsic attitude, awareness expectations and standards shared by the culture.

CHAPTER SIX

CULTURAL RESEARCH METHODS

In this chapter example research methods and outcomes are presented. These methods have been taken from numerous literature sources and interview discussions. They are intended to further define the cultural lenses and elements by providing a practical reference of their use in a design scenario. The example outcomes will further clarify the use of these methods by describing the kind of information they will acquire, and the designs that this information can produce.

Bicycles at the University of Beijing
Beijing, China

CULTURAL RESEARCH METHODS

Of course, these lenses are merely a representation of the work that must be conducted in order to uncover the cultural data. Capturing this data requires research methods, which many researchers and designers already use. Their methods are certainly effective, and should be incorporated into this framework. The table below provides example methods or protocols in order to explain how the lenses and cultural elements can be used to break down a culture and extract the cultural data. Additionally, "Example Outcomes" are presented to further illustrate how this framework can be used in a design project. (see Figure 6.0)

EXAMPLE METHODS:

These protocols are examples to illustrate how a designer might research a culture for a product design.

EXAMPLE OUTCOMES:

Research for a rice cooker being designed for sale in Shanghai China.

LENSES		ELEMENT		EXAMPLE METHODS	EXAMPLE OUTCOMES
POPULATION	The personalities, classes, activities, and behaviors that describe a cultural population.	DEMOGRAPHICS	How can the Cultural Population (CP) be segmented into smaller, more precise groups?	• Survey and group the cultural population by standard demographic delineations (geographic region, locale, class, income, age, sex, etc). • Determine which group or groups belong to the product's Target Population (TP) (Who uses/purchases this product?). • Note User/Purchaser relationship (Same/Diff) • Consider any anthropometric differences.	*Research for a rice cooker being designed for sale in Shanghai China.* The Target Population includes Shanghai, urban-dwelling, males and females age 18-35, upper class with annual incomes 25K – 60K. Although the purchaser will likely use the product, there are multiple users who fall outside the TP.
		LIFESTYLE	What are the sub-cultural differences within the Target Population categorized by similarities in lifestyle?	• Conduct a user study that uncovers behaviors, habits, interests and lifestyles. • Discard outliers and identify patterns. • Create Target Groups (TG) defined by fitting stereotypes (techies, jocks, hipsters, urbanites, etc).	The Target Population can be broken down into three Target Groups (TG). Hipsters: Prefer loud colors, trendy patterns, and graphics, affordable prices, simple functionality. Students: Prefer conservative styling, customized controls, and iconography. Young Profs: Demand quality, clean/modern styles, and good branding.
ENVIRONMENT	The physical environment, geography, weather and surrounding objects that form the cultural context of a people and region.	SETTING	How will the environment affect the product and how will the product affect the environment?	• Examine the location(s) that the product will inhabit. • Discover the major physical and emotive differences of these settings to those in the CoDO. • Derive an understanding of the environment from the perspective of the end user. • Accommodate any physical hazards, and infrastructural issues present in the foreign setting.	The TP views kitchen's as a place of work not a communal meeting area for entertaining as in the US. There is less attention given to appearance, as kitchens are out-of-sight from visitors. Purchasers of this product will look for function, and durability over aesthetics. Power is inconsistent, 20Amps, 160V. Room temperatures might exceed 95°F (35°C).
		ARTIFACTS	How is this product traditionally used/perceived? --- What familiar interactions of unrelated products can inform new design?	• Catalog a brief product history from its origin to the modern incarnation. • Conduct a user observation study that focuses on the product in use. • Develop a culturally contextual understanding of meaning, material, form and function. • Uncover design opportunities and avoidances. --- • Identify products that are related in function/usability and practice but not within the same category. • Study the interactions between the products and users then examine the unique forms and functions of these items. • Connect relationships between the unrelated products and the new design. • Highlight and abstract meaningful interactions, forms and functions that capture an emotional element.	Historically, rice was steamed in large kettles over fire. Currently, electric heating elements, plastics and formed aluminum are standard. Rice is slow-cooked and available throughout the day. Cookers are expected to have time settings. White with soft curves is the accepted norm. Avoid cheap materials. There is an opportunity to add character and modernize the aesthetics. --- Similar products include toasters, space heaters, ceramic planters, teakettle, clay pots, and bamboo steamers. These products have similar "set-n-forget" interactions, some are culturally specific, and communicate: home, health and nature. Consider the decorative nature of planters, steamers, and clay pots. Note the timer dial in toaster ovens and heaters. Lead with functionality: better timer control. Keep aesthetics modern with a traditional touch.
CONSCIOUSNESS	The current temperament including the ephemeral interests, enthusiasms, fads, and tastes of a cultural population.	TRENDS	What do the current trends depicted by cultural trace evidence say about the market condition and the TP's preferences?	• Identify and catalog market trends in art, music architecture, fashion and manufacturing as details that depict the current state of culture. • Understand the emotions that the culturally significant details evoke. • Consider trends that exemplify the desired character and personality for the product. • Inform the new product design using the trend details.	Modern architecture, fashion and art make use of clean lines, soft curves and smooth colors/textures inspired by European aesthetics. These details evoke a sense of quality, and trendiness. A second trend makes use of vibrant colors, with sharp angular forms inspired by Anime art. These trends are typically TG specific, but some overlap occurs.
		INFLUENCES	What external forces manipulate a consumer's taste, interests and style?	• Examine the CM's popular culture, political climate, media and advertising for the influential factors with the greatest affect on consumer preference. • Leverage the factors in the design, branding and marketing of the new product.	Celebrity endorsements have great impact in the entire TP. Music and urban culture have drastically influenced the styles and preferences of the younger generation. Consider different designs for an older TP (Age 40 and up).
VALUES	The ideals embedded within a cultural population that determine ambitions, priorities, desire and standards.	TRADITIONS	What are the cultural icons that continue to resonate within the culture?	• Research folk-tales, defining historical events, and iconography that shape the cultural impulses and predilections. • Extract themes that can be translated into product design, branding, and marketing.	There are strong links to nature and family; but recent historical events promote industrialization and efficiency. Some cultural icons are still popular yet others have fallen out of style and may appear kitschy. Cultural abstractions are recommended.
		PERCEPTIONS	How have the cultural values influenced the population's perception, expectations and standards?	• Understand the TP perception of CoDO. • Assess the direction of Cultural Flow (accepting or repelling) within a product category. • Determine the level of cultural relevance requirements. • Understand where value is derived and what the TP expects from a product within this category.	Research shows the TP desire to emulate Western styles and culture. Cultural flow between USA and the CM is accepting with the exception of the lower income class, age 50 and up. The TP values durability and simple functionality for this product group. Avoid over design, and use robust materials and manufacturing processes.

Figure 6.0 - Cultural Research Methods

DESCRIPTIONS

On the next four pages, each cultural element is described along with the example methods in further detail. A question is posed to illustrate how each element might be used in the design process. These questions also appear in the table on page 48.

DEMOGRAPHICS:

How can the cultural population be segmented into smaller, more precise groups?

- Survey and group the cultural population by standard demographic delineations (geographic region, locale, class, income, age, sex, etc).
- Determine which group or groups belong to the product's target population (Who uses/purchases this prod uct?).
- Note User/Purchaser relationship (Same/Different)
- Consider any anthropometric differences.

Culture does not follow provincial boundaries or even national borders. When investigating a culture for product development it is important to first establish your target population [4]. This is not suggesting that research should only focus on certain age groups or locations, but rather cultural regions should be established and defined. Knowing whether or not there is a difference between a product's users and purchasers, and considering any significant anthropometric variation can produce different design outcomes.

LIFESTYLE:

What are the sub-cultural differences within the Target Population categorized by similarities in lifestyle?

- Conduct a user study that uncovers behaviors, habits, interests and lifestyles.
- Discard outliers and identify patterns.
- Create target groups defined by fitting monikers (techies, athletes, hipsters, urbanites, etc).

Segmentation is the cornerstone of marketing. It provides marketers with a more precise understanding of a market by narrowing the focus to a specific target group [4]. The same goes for design. You cannot simply set out to understand a culture without defining the population groups that comprise it. Demographics will only narrow down a population so far. Understanding user's lifestyles will provide a high-resolution representation of the target population and allow designers to consider designs specific to user groups [33].

SETTING:

How will the environment affect the product and how will the product affect the environment?

- Examine the location(s) that the product will inhabit.
- Discover the major physical and emotive differences of these settings to those in the country of design origin.
- Derive an understanding of the environment from the perspective of the end user.
- Accommodate any physical hazards, and infrastructural issues present in the foreign setting.

Culture is greatly affected by the location, climate, politics, and economies of an area. Investigating the environment in which a culture exists, and the setting where the product will live can be crucial in developing an acceptable design. A foreign location might have severely different climates, or infrastructures capabilities. Likewise, the product setting may not have the same connotations as in the country of design origin; i.e public bathrooms.

ARTIFACTS:

How is this product traditionally used and perceived? What familiar interactions of unrelated products can inform new design?

- Catalog a brief product history from its origin to the modern incarnation.
- Conduct a user observation study that focuses on the product in use.
- Develop a culturally contextual understanding of meaning, material, form and function.
- Uncover design opportunities and avoidances.

- Identify products that are related in function/usability and practice but not within the same category.
- Study the interactions between the products and users, then examine the unique forms and functions of these items.
- Connect relationships between the unrelated products and the new design.
- Highlight and abstract meaningful interactions, forms and functions that capture an emotional element.

A good start in any design process is to conduct a "state-of-the-art" study and "product-in-use" analysis. The same goes for cross-cultural design situations - know what is out there, and know what to achieve or avoid. As seen in rural China, farmers frequently clogged washing machines that they used to clean produce. This perplexed the manufacturer until they went into the field and witnessed it [34]. Researching other products can show what is familiar to your users. The form, function and interaction of other products can inspire innovative features. Understanding both Setting and Artifacts will provide the cultural context for a design.

TRENDS:

What do the current trends depicted by cultural trace evidence say about the target population's preferences?

- Identify and catalog market trends in art, music, architecture, fashion and manufacturing as details that depict the current state of culture.
- Understand the emotions that the culturally significant details evoke.
- Consider trends that exemplify the desired character and personality for the product.
- Inform the new product design using the trend details.

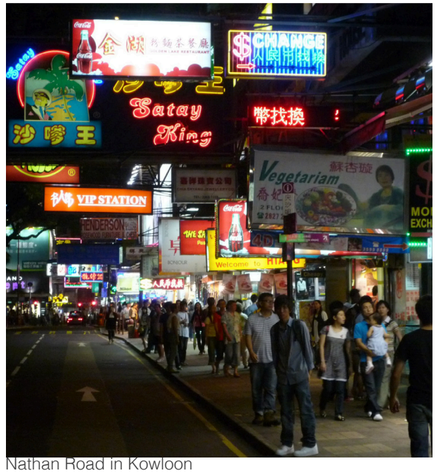
Trends can tell a lot about what is popular right now. These are the shallow values that a cultural population has in the moment. It can inform aesthetics and provide immediate popularity[35]. Beware, catching a trend can be like catching a wave: arrive too late and the opportunity is lost.

INFLUENCES:

What external forces manipulate a consumer's taste, interests and style?

- Examine the cultural market's popular culture, political climate, media and advertising for the influential factors with the greatest effect on consumer preference.
- Leverage the factors in the design, branding and marketing of the new product.

The media, entertainment, and the economic and political climate are key drivers of trends. It is also important to recognize the power of word-of-mouth and online social networking[20, 35]. Understanding the influences can help determine what's popular and how a product can be marketed. It is also important to visualize if a trend is on the way up or down.



Nathan Road in Kowloon
Hong Kong

TRADITION:

What are the historic cultural icons that continue to resonate within the culture?

- Research defining historical events, iconography, and folk-tales that shape the cultural impulses and predilections.
- Extract themes that can be translated into product design, branding, and marketing.

Investigating tradition is like inspecting the foundation of a house; it is the basis of the cultural value system. Traditions can be hard to uncover, but focusing on historically iconic people, events, symbols and objects is like taking the shortcut. Consider alternative cultural records like folk-tales and religious text, which may uncover a deep emotional value system[3, 5].


Soldier at Tiananmen Square
Beijing, China

PERCEPTIONS:

How have the cultural values influenced the population's perception, expectations and standards?

- Understand the target population's perception of the country of design origin.
- Assess the direction of Cultural Flow (accepting or repelling) within a product category.
- Determine the level of cultural relevance requirements.
- Understand where value is derived and what the target population expects from a product within this category.

Understanding perceptions requires direct contact with persons native to the cultural market. Knowing perception will inform designers how the target population perceives the product/brand's country of origin. In some cases, products from a certain country carry a negative connotation with them; rebranding and marketing may be necessary[36]. Also, knowing the cultural relevance expected could save on unnecessary research as some cultures are "accepting" of foreign made and designed products.

CHAPTER SEVEN

CULTURAL DESIGN GOALS

Goals give purpose and direction to our lives. Design is no different. Starting a project with a design goal will highlight the cultural research methods to use. It is important to note that it is not necessary to use the lenses or follow the methods in any specific order. In fact it is not required to use all four lenses. This framework allows the designer to choose their design priority. In other words, the lenses chould be used according to the design goals desired. As previously mentioned, the four lenses uncover four different areas of culture. Likewise, their corresponding elements isolate the areas of cultural data that relate to design questions. Combining these questions in an intelligent way equates to researching with an agenda.

Fishermen in Manilla Bay
Corregidor Island, Philippines

Figure 7.0 - Culture

CULTURAL DESIGN GOALS

The circular graphic helps illustrate this. Like a pie chart, the full circle represents all of "culture." Each colored quadrant corresponds to an area of culture defined by the four lenses. Within each lens are the two cultural elements. (see Figure 7.0)

The two smaller circles show the same colored quadrants. The circle on the left is bisected horizontally. The top two quadrants, Population and Environment, are combined and together represent the design goal for Compatibility. The bottom two quadrants, Consciousness and Values, are combined for the goal of Aesthetic. The same is true for the vertically bisected circle on the right. The combinations result in design goals for Emotionality and Functionality. Together, these graphics serve as a key to guide designers by their design goals and suggests the lenses to use in order to capture the applicable cultural data for the design. (see Figure 7.1)

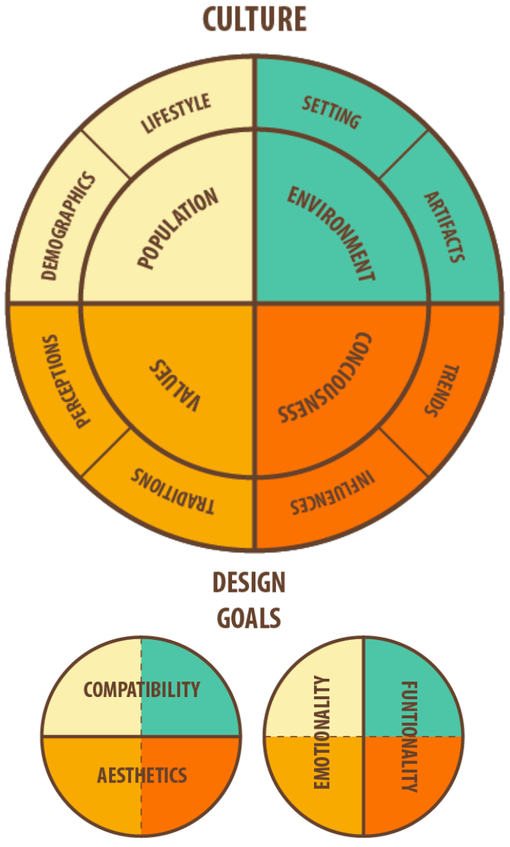


Figure 7.1 - Goals

"The corresponding elements isolate the areas of cultural data that relate to design questions. Combining these questions in an intelligent way equates to researching with an agenda."

DISCUSSION

Every design scenario is different because every product incites different needs and requirements. Not all products must be emotionally relevant, i.e. a can opener, or a shovel. Likewise, not every product must be functionally driven, i.e. chandelier, or children's toy. So it is not expected that every cultural layer be used for every project.

Some design projects involve products with multiple design goals. A reusable water bottle for example, is often carried as a personal accessory. It must look good, and tell a story about the owner. Therefore designing for aesthetics and emotionality take priority. Investigating the Population, Values, and Consciousness lenses will provide designers with an in-depth understanding of the user group, their value system, and the current trends that drive popularity.

DESCRIPTION

On the following page the four design goals are described in further detail. Like any design goal, the four cultural design goals prompt research and investigation of certain areas; the information will also inform certain design attributes. The chart that accompanies the descriptions provides example areas of investigation, the design attributes that can be informed, and product categories that are best suited for the specific design goal.

DESCRIPTION

COMPATIBILITY:

Technically, all products must be compatible. But as a design goal, designing for compatibility goes deeper. By joining the cultural lenses of Population and Environment, design research will focus on understanding the core user group and native environment. This includes the lifestyles, habits, interests, and anthropometry of the people, and the location, climate, artifacts and conditions of the environment. The data retrieved can help create products that will be safer, more ergonomic, better fitting, more weather resistant, longer lasting, and more compatible with the infrastructure and other products.

DESIGNING FOR COMPATIBILITY			
Investigates:		Informs :	Use For:
Detailed user groups User/Purchaser identity Lifestyles/Behaviors Habits Interests Anthropometry	Weather/Climate Infrastructure Hazards User Perception of Setting Related Products Familiar Func./Interactions	Customization Ergonomics / Safety Material Selection Size / Weight requirements Compatibility/Durability Weather Resistance	Healthcare Products Kitchen Tools/Appliances User Interfaces Control Panels Safety Equipment Office Furniture/Equipment

Figure 7.2 - Compatibility

AESTHETICS:

Designing for cultural aesthetics means that the cultural expectations, tastes and perceptions are taken into account. What might be beautiful for one cultural population might be ugly for another. Researching through the cultural lenses of Values and Consciousness will focus on understanding the cultural value system and current trends that influence a population. The data retrieved can inform products to be trendy, eye catching, beautiful, competitive, culturally acceptable and relevant.

DESIGNING FOR AESTHETICS			
Investigates:		Informs:	Use For:
Historic Events/Folk-Tales User expectations/standards Icons Acceptance/Aversion to foreign cultures Cultural Design requirement	Market trends in art, design and manufacturing Popular colors, shapes, styles Social/Political influences Media influences Cultural drivers	Trendiness Marketability/Acceptability Competitiveness Form / Shape Branding/Iconography Logos / Slogans	Home Goods Luxury Furniture Personal Electronics Shoes/Clothing/Accessories Bikes/Skateboards Cars

Figure 7.3 - Aesthetics

EMOTIONALITY:

Designing for emotionality creates a deep bond between a product and its consumer [30]. This will increase desirability and duration of ownership. When people can associate their products to nostalgic memories and sentimental emotions they tend to pay more and keep them for longer. Think of a pair of favorite shoes or keychain, people will often buy the same shoe time and time again, or keep that keychain despite the obvious wear and tear. Researching through the cultural lenses of Population and Values will focus on understanding the target population and consumer expectations and standards. The data retrieved can inform products to have built in nostalgia and customizability with trendy styling and social currency.

DESIGNING FOR EMOTIONALITY			
Investigates:		Informs:	Use For:
Detailed user groups User/Purchaser identity Lifestyles/Behaviors Habits Interests Anthropometry	Historic Events/Folk-Tales User expectations/standards Icons Acceptance/Aversion to foreign cultures Cultural Design requirement	Nostalgia Individuality/Customizability Patriotism Acceptability Social currency	Shoes/Clothing/Accessories Furniture Toys Sporting Goods Musical Instruments Sport Cars

Figure 7.4 - Emotionality

FUNCTIONALITY:

Obviously all products must function properly, but as a design priority, functionality takes center stage. Certain products demand high performance functionality. For example, industrial products, extreme sports equipment and power tools are subjected to harsher conditions and greater forces. Researching through the cultural lenses of Environment and Consciousness will focus on understanding the environmental conditions, infrastructure, user preferences and design and manufacturing requirements. The data retrieved can inform products to be highly functional, specialized and dependable.

DESIGNING FOR FUNCTIONALITY			
Investigates:		Informs:	Use For:
Weather/Climate Infrastructure Hazards User Perception of Setting Related Products Familiar Func./Interactions	Market trends in art, design and manufacturing Popular colors, shapes, styles Social/Political influences Media influences Cultural drivers	Safety Material Selection Design/Manufacturing Req's Compatibility/Durability Weather Resistance Marketability/Acceptability	Power Tools Industrial Equipment Utility Vehicles Community Products Consumer Electronics Extreme Sport Equipment

Figure 7.5 - Functionality

FLOW CHART

The folowing flow chart provides a visual map of the cultural design framework. This diagram will help clarify the use of the design goals, the cultural lenses and elements, and the research methods as steps in the research process. (see Figure 7.6)

Start at the center of the diagram. The designers can choose to embark on their reserach with the design goals or jump straight into the cultural lenses. This might depend on the nature of the design, and the stage of the design process. If starting at the design goals, “Design for Compatibility” for example; the flow chart will point towards the Population and Environment lenses. At each lens the designers will be instructed to investigate the corresponding cultural elements: Lifestyle, Demographics, Setting, and Artifacts. Finally, from each of those cultural elements the deigners can follow the provided example methods to capture the specific cultural data and use it to inspire a design.

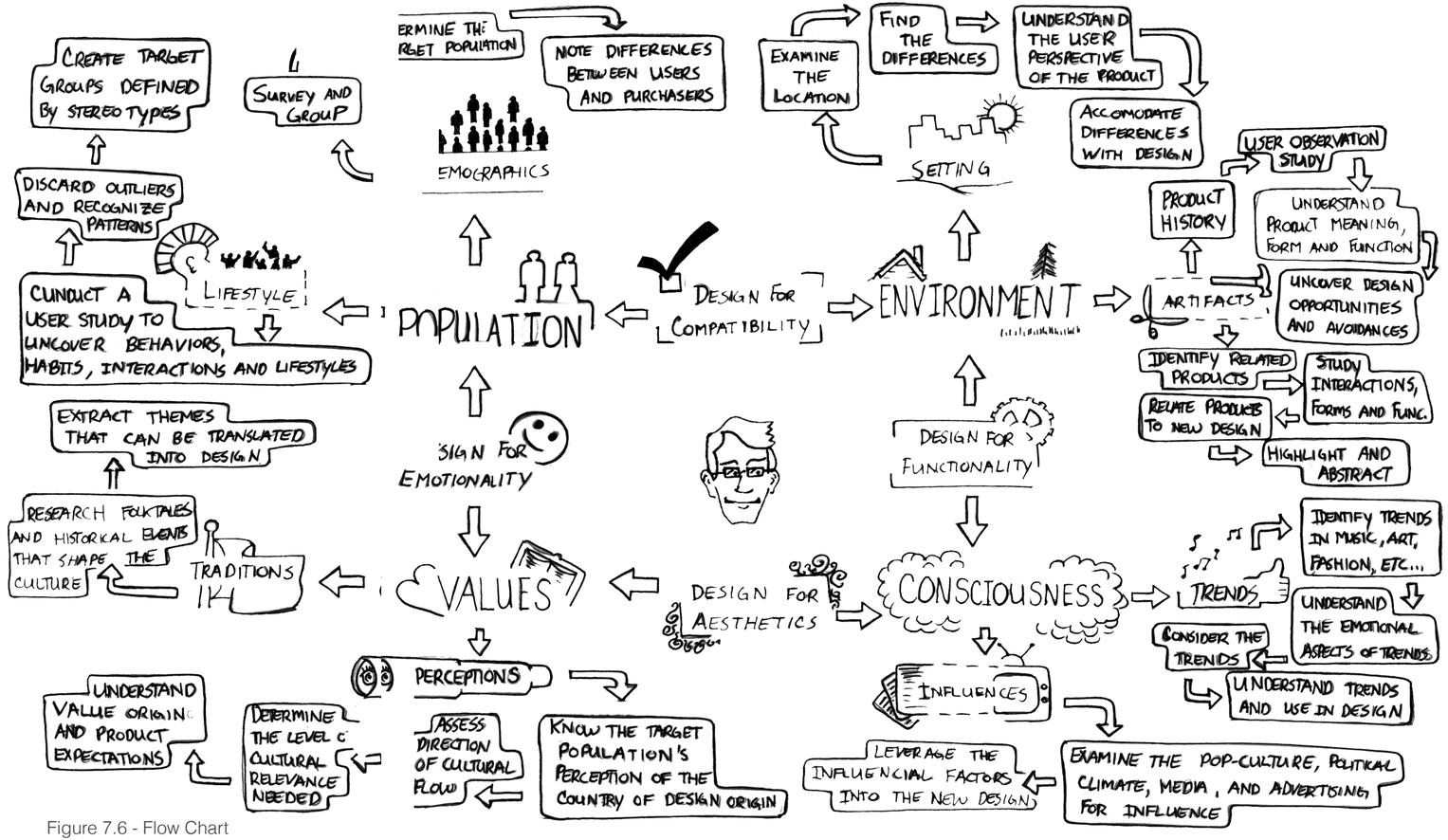


Figure 7.6 - Flow Chart

CHAPTER EIGHT

EVALUATION AND CONCLUSION

In this chapter, some discussion on the evaluation process that helped to shape the definition of culture and the research framework. Then, thoughts on the framework in practice with some research principles to keep in mind.

Hong Kong, taken from Victoria Peak
Hong Kong

EVALUATION

In order to develop and refine a definition of culture, a lengthy evaluation phase was conducted. At each pass, the originally identified cultural elements were refined and adjusted to maximize the understanding and decrease the complexity of the cultural cloud. In addition to providing their professional insight, the design practitioners also helped evaluate the framework. Their input was once again invaluable as it provided a practical perspective that considered the knowledge and experience of seasoned designers. Their suggestions included: a breakdown of the eight cultural elements into four lenses; the use of the visible-light-spectrum metaphor; and a re-wording of several methods and examples. Later evaluations suggested that a graphical flowchart be used as a Cultural Design "road-map" to present the information as choices and pathways.

Discussions with foreign design students (Chinese Nationals) provided a counter-perspective that helped to evaluate the usefulness of this framework, and the clarity of the language to a non-western designer. This evaluation once again changed some of the language, and prompted the circular charts to further explain how the framework is driven by design goals. The purpose was to develop a framework that is culturally neutral and applicable to any cross-cultural situation.

Hong Kong, taken from Kowloon Side
Hong Kong

THE FRAMEWORK IN PRACTICE

Flying over the Philippines

The framework presented in this book is not intended to be a shortcut. There is no truly easy way to capture rich cultural data. This framework should act as a reference to guide the research process in a cross-cultural design situation. Ultimately, the methods for capturing cultural data are determined by budgets, time, need and desire. For the best results, many companies invest in cultural immersion by hiring foreign designers, or opening a design department in the foreign cultural market. Obviously this is not a possibility in most situations. Smaller firms often recruit local expatriates, persons temporarily or permanently residing in a country and culture other than that of the person's upbringing. Expatriates can provide ample cultural data through the elements in the population, consciousness, and value lenses; however, the environment elements are still unclear. Sometimes, product companies will employ market research firms. This can work to a point, as it will provide demographics, trends, traditions and perceptions; but this data is often not customized to the product, or even product design. Unfortunately, the cost is rarely worth the results. One alternative method is to send a small team of designers to the foreign market for a deep-dive research excursion. Designers are inherently intuitive and are capable of quickly assimilating visual, emotional, and relational details. Just by being in an environment will provide context to the design situation that cannot be achieved through focus groups, or market research. But again, this method should not be conducted alone; the most effective Cultural Design research will make use of numerous methods to capture the full breadth of data.

RESEARCH PRINCIPLES

Regardless of the methods used it is important for designers and researchers to enter a cross-cultural design situation with a plan and principles. Author Kelly Terry presents eight research principles or guidelines to keep designers focused and within budget [20] (see Figure 8.0):

DO YOUR HOMEWORK: Background research is important to understand the target demographic and their basic tendencies so the research project can be constructed in a way that limits data quality issues. Examine the social setting in which the product will be used or the purchase decision made.

TAKE YOURSELF OUT OF THE EQUATION: Researchers must be careful to avoid the same trap that many product developers and marketers fall into: the problem of self-reference. Researchers must avoid applying their own cultural experiences and values, definitions, thought processes and communication mechanisms to someone of another culture.

INVOLVE CULTURAL EXPERTS: Include persons of the specific culture of focus or very well trained researchers who specialize in cross-cultural studies as part of your research team.

MATCH THE STUDY DESIGN AND DATA COLLECTION MECHANISM TO THE TARGETED SEGMENT: For example, persons in collectivistic societies (e.g. Asia- Pacific culture) or hierarchical societies are more reliant on reference groups and on group consensus in forming opinions and making decisions, so it is unlikely that an individual in a focus group would express views dramatically different than those of the other participants, particularly if one of the participants is perceived as being higher in rank or position. Attitudes towards privacy and secrecy also have an effect on the reliability of responses. In many

Figure 8.0 - Research Principles

developing countries, the research industry is nascent, so secondary information is limited or unreliable; postal and telephone systems are unreliable and literacy rates are low, so the effectiveness of surveys is very limited. In high crime areas, research participants may be reluctant to allow researchers into their homes, making in-home studies difficult. The context of testing should mirror the context of use for the product or service, particularly if any uncertainty exists concerning the effect of context on product use. Use techniques of ethnography and participant observation to locate relevant patterns and find hidden details. Effectively harnessing these methodologies will give you an insider's perspective as you work to provide useful, satisfying, and relevant products for your customers.

ALLOW FOR FLEXIBILITY IN THE PROJECT DESIGN: Let the user drive the test a little. No one uses something passively. Rather, they take charge and use it as they want to.

FOCUS ON THE TRANSLATION OF MEANING OR CONCEPTUAL EQUIVALENCE, NOT THE DIRECT TRANSLATIONS OF WORDING: The first step is to translate documents in both directions using more than one translator in order to reduce inaccuracies. Wording should be objective and unambiguous.

SELECT TEST PARTICIPANTS CAREFULLY TO ENSURE REPRESENTATIVENESS AND COMPARABILITY OF SAMPLES: Often convenience and desire to achieve a large variation on the dimensions of interest are the primary considerations. Participant selection should closely align with the purpose of the research. After defining the target population, a skilled researcher can identify the culture group or groups which it embodies. In areas experiencing a high rate of change, sampling criteria should be aligned with relevant trends in user profiles, not current profile characteristics.

HEDGE YOUR BETS: Use multiple approaches and triangulate results and use larger sample sizes.

Pagoda at the Winter Palace
Xian, China

CONCLUSION

Cross-cultural design situations are happening more and more every day [2, 20, 33]. As a relatively new challenge to the field, Cultural Design is an under studied area. Furthermore, no definition has been established which extracts the design-relevant cultural elements and relates them to specific goals. The framework presented here visualizes culture as a four-part system. Each part, or lens, allows the designer to peer deeper into the cultural cloud. Within each lens are two cultural elements, for a total of eight, which use methods to capture design-relevant data. Finally, the lenses can be combined to research a culture according to specific design goals.

Although not every product requires in-depth cultural research and design, those that do are likely to fail without it [3, 5, 14]. It has been well documented that consumers around the world are no longer willing to settle for one-size fits all products[33]. In fact, globalization has increased the level of cultural identity as pride in national heritage has grown[3]. Businesses must recognize the advantages of investing in cultural research when attempting to enter a foreign market. Designers must be more efficient in researching these markets and utilize a method that considers the limitations and challenges of a cross-cultural design situation and the priorities inherent in each design. This framework should be used in conjunction with the well-established design thinking techniques, natural intuition of designers, and professional experience found in all design studios. It is intended as a means to structure the nebulous cultural cloud, and define it as a manageable construct for product design research.

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Imperial Guardian Lion at the Summer Palace
Beijing, China